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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/687,445	10/13/2000	Charles Lee Asplin	20158.2US01	1343
52835 7590 03/17/2009 HAMRE, SCHUMANN, MUELLER & LARSON, P.C. P.O. BOX 2902 MINNEAPOLIS, MN 55402-0902				
EXAMINER				
ADDIE, RAYMOND W				
ART UNIT		PAPER NUMBER		
3671				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/687,445

Applicant(s)

ASPLIN, CHARLES LEE

Examiner

Raymond W. Addie

Art Unit

3671

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/13/2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/C2)
- Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12-18, 22, 24-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flock # 1,943,914 in view of Asplin # 5,860,763 and Lightle # 5,795,108.

Flock discloses a method of lifting and leveling a slab of concrete (6) using compressed air to compact the sunken soil (5) below the slab (6), and to lift the slab, to stabilize and hold said slab in a desired position, the method comprising the steps of:

Drilling a hole in said slab (6).

Attaching said gun nozzle (13) to said slab, and at least partially within said drilled hole.

Supplying an aggregate storage tank (not shown) filled with an aggregate, such as earth clay etc., said storage tank being connected to an injector gun (13) via an elongate fluid tight hose (9). See Col. 2, Ins. 100-110.

Supplying a pressure source in fluid tight connection with said aggregate storage tank such that an aggregate is discharged under pressure to compact the subsoil and raise the sunken pavement (6). See Col. 2, Ins. 88-110.

Delivering said pressurized aggregate, to said injector gun (19) and through a nozzle (13); and into a cavity created below the sunken slab (6). See Col. 3, Ins. 19-44.

Lifting said slab (6), momentarily, with said pressurized earth; to height at least equal to a desired final level with the inherent internal pressure of said pressurized earth, such that "a settle cavity is formed, and back pressure is applied to the bottom surface of said slab (6) to raise said slab". See Col. 2, Ins. 19-33.

Leveling said ground with said pressurized earth, such that said earth may move about said settle cavity and fill said cavity, thus supporting the bottom surface of said slab (6).

Flock further discloses the "stem 9" could take the form of a well drilling rig, which obviously would be attached to the slab, else the drilling rig would not be able to drill the Hole (11) as described. See col. 2, Ins. 88-105.

What Flock does not disclose is the specific use of well dried mason's sand. However, Asplin teaches well dried mason's sand is advantageously used to fill a cavity below sunken pavement slabs (52), by compressed air injection, utilizing an injector gun (42). See Col. 4.

The sand being provided in a drying/storage hopper having a shutoff valve, to control the flow of sand. Col. 2, Ins. 13-36.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to provide the method of raising sunken pavement, of Flock, with

the step of utilizing mason's sand under high air pressure, to fill a cavity formed below sunken pavement, as taught by Asplin, in order to form a compressed foundation layer of aggregate, to support said slab in a raised, level position.

Flock in view of Asplin disclose essentially all that is claimed, to include the use of a hopper (32) and various valve assemblies (34, 30, 32, 56) to control movement and placement of the pressurized aggregate, such as earth.

Although Flock further discloses the steps of drilling at least one hole (11) and filling said hole with pressurized aggregate until the pavement is leveled.

Flock does not disclose patching the hole (11) with cement or the like.

However, it would be obvious to one of ordinary skill in the art that Flock contemplates patching the holes, otherwise, rain water would enter the hole (11) and cause subsequent settling of the concrete slab just raised.

Flock also discloses the injector gun can be any of several different embodiments having different shapes, sizes and nozzle openings can be disposed in various orientations, relative to the supply hose (9). To include a well drilling rig disposed upon the slab (6) being raised.

Flock in view of Asplin do not disclose are the various structural features of the pressurized delivery system. However, Lightle teaches the steps of:

Providing a high-volume, compressed air source and plurality of valve assemblies (30, 32, 56) for controlling the flow of sand through the distribution systems.

Said valve assemblies increasing the safety of pressurized system, and providing

sufficient pressure for placing aggregate in a desired location, through an aggregate distribution system. See Lightle Cols. 2-3. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to provide the method of lifting and leveling a slab, of Flock in view of Asplin, with the step of providing a high-volume, compressed air source, having a pressure relief valve as taught by Lightle, since it is known to place dry sand in a desired location, by providing a sand gun, with compressed air, as taught by both Asplin and Lightle.

With respect to claims 20, 24 although the cited references do not explicitly recite the step of patching the holes in the concrete, it is obvious, such a step is absolutely mandatory, to prevent: Pedestrians being hurt by stepping into un-patched holes; rain water entering the holes and causing subsequent settling of the raised and leveled slab.

2. Claims 18-21, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flock, '914 in view of Asplin '763 and Lightle '108 as put forth with respect to claim 17 above, and further in view of Poulter US 1,915,032.

The combination of references cited above, discloses essentially all that is claimed, except for drilling a 2nd hole through the concrete slab and repeating the raising/leveling steps. However Poulter teaches it is known multiple holes (3) may have to be drilled through a concrete slab (1) in order to inject sufficient amounts of filler material, in order to raise the concrete slab. See figs. 2, 3; Col. 2.3

3. Claims 12, 17, 18, 25-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flock # 1,943,914 in view of Asplin US 5,561,914.

Flock discloses a method of lifting and leveling a concrete slab (6) comprising the steps of:

Supplying a particulate storage tank (not shown) having an incompressible filler material, such as earth clay etc.

Drilling a hole (11) in the slab to be leveled.

Attaching a gun nozzle (13) to said drilled hole (11), via a guide sleeve (18) to said hole.

Pressurizing the filler material.

Delivering the pressurized filler material through said hole and into the cavity (12).

Leveling said ground with said filler material carried by said pressure source, such that the filler material may move freely within said settle cavity (12), thereby filling said cavity.

Wherein the slab (6) is raised to a height at least as high as a desired final position.

Although Flock does not explicitly recite the step of injecting the filler material in "bursts" it would be well within the skill of one in the art, and quite obvious, that if after a 1st injection of filler material, the slab (6) is not raised to at least the desired final position, repeated injections of filler material would be necessary to raise the slab (6) to its final desired position.

Although Flock does not explicitly recite the use of "Mason's sand"; it is obvious

the disclosure of Flock citing "earth, clay etc.) would include sand. Flock further does not disclose how the filler material (i.e. earth, clay etc.) is pressurized; Asplin teaches "Dry sand is a frequent requirement in various aspects of the construction industry. One use for dry sand is in the mixing of certain dry premix mortars and cements.

A second use for dry sand is the use of sand blasters wherein dry sand is mixed with air at high pressure and used for a variety of situations".

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to provide the method of raising and leveling a sunken concrete slab of Flock, with the step of providing masonry sand, under high air pressure, as taught by Asplin, since both references teach ejecting earthen, filler materials under pressure, in the construction industry. See Asplin Col. 1.

4. Claims 19-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flock '914 and Asplin '914 as applied to claim 18 above, and further in view of Poulter US 1,915,032. The combination of references cited above, discloses essentially all that is claimed, except for drilling a 2nd hole through the concrete slab and repeating the raising/leveling steps. However Poulter teaches it is known multiple holes (3) may have to be drilled through a concrete slab (1) in order to inject sufficient amounts of filler material, in order to raise the concrete slab. See figs. 2, 3; Col. 2.3

With respect to claims 20, 24 although the cited references do not explicitly recite the step of patching the holes in the concrete, it is obvious, such a step is absolutely mandatory, to prevent: Pedestrians being hurt by stepping into un-patched holes; rain water entering the holes and causing subsequent settling of the raised and leveled slab.

Response to Arguments

5. Applicant's arguments, see pages 2, 3 filed 12//24/2008, with respect to the rejection(s) of claim(s) 12-29 under 35 USC 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Asplin 5,561,914.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond W. Addie whose telephone number is 571 272-6986. The examiner can normally be reached on 7am-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will can be reached on 571 272-6998. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system.

Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Raymond W. Addie/
Primary Examiner, Art Unit 3671

3/13/2009